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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/797,561	03/11/2004	Jose Nunez-Regueiro	3691-662	4822
23117	7590	09/21/2006	EXAMINER	
NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203			BLACKWELL RUDASIL, GWENDOLYN A	
			ART UNIT	PAPER NUMBER
			1775	

DATE MAILED: 09/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/797,561

Applicant(s)

NUNEZ-REGUEIRO ET AL.

Examiner

Gwendolyn Blackwell

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-21 and 37-40 is/are allowed.
- 6) ☒ Claim(s) 22-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 4/06.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 22-29 are rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent no. 6,045,896, Boire et al.

Applicant's claim 22 requires that the following structure is comprised of:

tin oxide/zinc oxide/Ag

wherein one IR reflecting layer (Ag) is directly on and contacting a layer comprising zinc oxide and the zinc oxide layer is directly on and contacting a layer comprising tin oxide. The other Ag layer can be located above the first Ag layer or below the tin oxide layer. Claim 22 also requires further limitations regarding physical characteristics related to heat treating.

Regarding claim 22

Boire et al disclose a glazing assembly comprised of a transparent substrate with a multilayer coating formed thereon, (column 1, lines 8-14). Table 1 discloses the following structure, (column 11), meeting the requirements of claim 22:

TABLE 1

		EXAMPLE 1	EXAMPLE 2	EXAMPLE 3
Glass	(1)	—	—	—
SnO ₂	(2a)	20	20	20
ZnO	(2b)	17	17	17
Ag	(3)	9	9	9
Nb	(4)	0.7	0.7	0.7
Si ₃ N ₄	(5a)	65	65	65
ZnO	(5b)	25	25	25
Ag	(6)	9	9	9
Nb	(7)	0.7	0.7	0.7
Layer 8a	(8a)	(WO ₃): 2	(ZnO): 2	(SnO ₂): 2
Si ₃ N ₄	(8b)	37.5	37.5	37.5

When the structure recited in the reference is substantially identical to that of the claims, the claimed properties or function are presumed inherent. *MPEP 2112.01*. Because the prior art exemplifies the applicant's claimed multilayer coating, the claimed physical properties relating to heat treatment, visible light transmission parameters and sheet resistance are inherently present in the prior art. Absent an evidentiary showing to the contrary, the addition of the claimed physical properties to the claim language fails to provide patentable distinction over the prior art of record, meeting the requirements of claims 22-29.

3. Claims 30-35 are rejected under 35 U.S.C. 102(a) as being anticipated by United States Patent Application Publication no. 2003/0170466, Stachowiak.

Applicant's claims 30 and 35 require that the following structure is comprised of:

Ag/tin oxide/Ag

wherein the first and second IR reflecting layers are spaced apart by at least one layer comprising tin oxide. Each claim further requires certain physical characteristics related to heat treating.

Regarding claims 22-35

Stachowiak discloses a coated article having the following layer structure, (Example 9, page 10, sections 0163-0174):

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- [0164] glass ($n=1.51$)
- [0165] silicon zirconium nitride (SiZrN_x) ($n=2.2-2.45$, preferably $n=2.32$)
- [0166] nickel-chromium-oxide (NiCrO_x)
- [0167] silver (Ag)
- [0168] nickel-chromium-oxide (NiCrO_x)
- [0169] silicon zirconium nitride (SiZrN_x) ($n=2.2-2.45$, preferably $n=2.32$)
- [0170] tin oxide (e.g., SnO_2) ($n=1.8$ to 2.2 , preferably $n=2.0$)
- [0171] nickel-chromium-oxide (NiCrO_x)
- [0172] silver (Ag)
- [0173] nickel-chromium-oxide (NiCrO_x)
- [0174] silicon zirconium nitride (SiZrN_x) ($n=2.2-2.45$, preferably $n=2.32$)

Because the prior art exemplifies applicant's claimed multilayer coating, the claimed physical properties relating to heat treatment, visible light transmission parameters and sheet resistance are inherently present in the prior art, meeting the requirements of claims 30-35. *MPEP 2112.01.*

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent Application Publication no. 2003/0170466, Stachowiak as applied to claim 35 above.

Regarding claim 36

The limitations for claim 35 have been set forth above.. Stachowiak disclose an IG window unit, (page 1, section 0025). Example 9 (page 10, sections 0163-0174) discloses the following layer structure:

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- [0164] glass ($n=1.51$)
- [0165] silicon zirconium nitride (SiZrN_x) ($n=2.2-2.45$, preferably $n=2.32$)
- [0166] nickel-chromium-oxide (NiCrO_x)
- [0167] silver (Ag)
- [0168] nickel-chromium-oxide (NiCrO_x)
- [0169] silicon zirconium nitride (SiZrN_x) ($n=2.2-2.45$, preferably $n=2.32$)
- [0170] tin oxide (e.g., SnO_2) ($n=1.8$ to 2.2 , preferably $n=2.0$)
- [0171] nickel-chromium-oxide (NiCrO_x)
- [0172] silver (Ag)
- [0173] nickel-chromium-oxide (NiCrO_x)
- [0174] silicon zirconium nitride (SiZrN_x) ($n=2.2-2.45$, preferably $n=2.32$)

Stachowiak does not specifically disclose a ZnO layer above and in direct contact with the tin oxide layer or that the layer formed directly under the first Ag layer is ZnO or ZnAlO_x .

The NiCrO_x layers are contact layers that can also be ZnO or ZnAlO_x , (page 2, section 0041). As Stachowiak discloses that ZnO or ZnAlO_x can also be used for the contact layers, it would be obvious to one skilled in the art at the time of invention to modify the NiCrO_x with either ZnO or ZnAlO_x as Stachowiak has disclosed the zinc oxide as being functionally similar to NiCrO_x .

Allowable Subject Matter

7. Claims 1-21 and 37-40 are allowed over the prior art of record. The following is an examiner's statement of reasons for allowance:

The closest prior art of record while teaching and suggesting a similar layer structure, does not teach or suggest an additional layer of tin oxide below and contacting the first silicon nitride layer as reflected in independent claims 1, 12, and 37. It is also not taught or suggested that the layer structure in combination with the silicon nitride layer having a non-stoichiometric ratio limitation as set forth in independent claims 7 and 17.

Response to Arguments

8. Applicant's claim amendments, filed June 26, 2006, with respect to claims 1-21 and 37-40 have been fully considered and are persuasive. Therefore, the prior art rejection has been withdrawn.

9. Applicant's arguments filed June 26, 2006 have been fully considered but they are not persuasive with regards to the rejection made under Boire et al (USPN 6,045,896) and Stachowiak (US 2003/0170466).

10. Applicant contends that Boire et al does not teach or suggest the physical properties as set forth in claims 22-29.

This is not persuasive as Applicant has not provided evidence to the contrary that the physical properties would not be present in Boire. Mere allegations that because Boire does not specifically teach the physical properties therefore they must not be present is not evidence nor is it an indication that the properties would not be there. The layer structure of the Boire coating contains all of the layers in the proper order as claimed by Applicant. As such and absent a

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showing to the contrary that the coating structure would not contain the physical properties of Boire, the rejection stands.

11. Applicant contends that Stachowiak does not teach or suggest the physical properties as set forth in claims 30-36.

This is not persuasive, as Applicant has not provided evidence to the contrary that the physical properties would not be present in Stachowiak. Mere allegations that because Stachowiak does not specifically teach the physical properties therefore they must not be present is not evidence nor is it an indication that the properties would not be there. The layer structure of the Stachowiak coating contains all of the layers in the proper order as claimed by Applicant. As such and absent a showing to the contrary that the coating structure would not contain the physical properties of Stachowiak, the rejection stands.

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gwendolyn Blackwell whose telephone number is (571) 272-1533. The examiner can normally be reached on Monday - Thursday; 6:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on (571) 272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Gwendolyn Blackwell
Examiner
Art Unit 1775



JENNIFER C. MCNEIL
SUPERVISORY PATENT EXAMINER
9/15/06